

What is claimed is:

- 1 1. A method of detecting a process failure in a distributed system, the method comprising
2 steps of:
 - 3 (1) measuring a first period of time between an instance a last heartbeat was received
4 from a first process and a later instance in time;
 - 5 (2) measuring a second period of time between an instance a last heartbeat was received
6 from a second process and said later instance in time;
 - 7 (3) comparing said first and second periods of time with a predetermined threshold; and
 - 8 (4) determining whether a process failure occurred in response to said comparison in step
9 (3).
- 10 2. The method of claim 1, wherein step (3) further comprises steps of:
11 calculating a difference between said first period of time and said second period of time;
12 and
13 comparing said difference to said predetermined threshold.
- 14 3. The method of claim 2, wherein step (4) further comprises steps of:
15 detecting a failure of said second process in response to said difference exceeding said
16 predetermined threshold.
- 17 4. The method of claim 1, wherein said steps are performed as computer-executable
18 instructions on a computer-readable medium.
- 19 5. The method of claim 1, wherein said distributed system includes one network.
- 20 6. A method of detecting a network failure in a distributed system, the method comprising
21 steps of:
 - 22 (1) determining whether a heartbeat is received from at least one process in the
23 distributed system prior to an expiration of a heartbeat timeout; and

5 (2) detecting a failure of a network in said system in response to not receiving said
6 heartbeat from said at least one process prior to said expiration of said heartbeat timeout.

1 7. The method of claim 6, wherein said steps are performed as computer-executable
2 instructions on a computer-readable medium.

1 8. The method of claim 6, wherein said distributed system includes one network.

1 9. A distributed system including a plurality of hosts connected via a network, wherein each
2 host executes a process in said distributed system, said system comprising:

a first host of said plurality of hosts executing a first process; wherein said first is operable to detect one of failure of a second process executing on second host and failure of said network based on a period of time to receive a heartbeat transmitted from at least one of said plurality of hosts.

10. The system of claim 9, further comprising:

a third host of said plurality of hosts executing a third process; wherein said first host is operable to measure a first period of time between an instance a last heartbeat was received from said third host on said network and a later instance in time and measure a second period of time between an instance a last heartbeat was received from said second host and said later instance in time;

said first host being further operable to compare said first and second periods of time with a predetermined threshold, and detect a failure of said second process in response to said comparison.

1 11. The system of claim 10, wherein said first host is further operable to calculate a
2 difference between said first period of time and said second period of time, and compare said
3 difference to said predetermined threshold.

1 12. The system of claim 11, wherein said first host is operable to detect said failure of said
2 second process in response to said difference exceeding said predetermined threshold.

1 13. The system of claim 12, wherein said first process is operable to remove said second
2 process from a view in response to detecting said failure of said second process.

1 14. The system of claim 9, wherein said first host is operable to determine whether a
2 heartbeat is received from at least one other host in said system prior to an expiration of a
3 heartbeat timeout.

1 15. The system of claim 14, wherein said first host is further operable to detect said failure of
2 said network in response to not receiving a heartbeat from said at least one other host prior to
3 said expiration of said heartbeat timeout.